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Mr. Peter Standish-Lee
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**Subject: Comments on the Loadings of Parameters of Concern Section of the
Draft Affected Environment Technical Report**

Dear Peter:

I conducted a very quick review of the subject report section today and offer the following general comments. I have attached marked-up pages from your section of the report that contain specific comments or editorial comments.

Developing load estimates for pollutants discharged into large watersheds is a huge task and one that water quality control agencies have been struggling with for years as part of regulatory requirements to develop total maximum daily loads (TMDLs) for pollutants in impaired water bodies. CALFED's approach briefly outlined on pages 3-40 and 3-41 for developing load estimates is a serious concern. Particularly since there is a statement on page 3-41 that "Load estimates were used to help evaluate the relative importance of different sources and the potential effectiveness of CALFED water quality actions." The decision to try to develop load estimates utilizing limited data and fairly gross assumptions, and then use the load estimates to determine the relative importance of different sources of pollutants and the potential effectiveness of CALFED water quality actions could potentially lead to inappropriate decisions regarding water quality actions. In those cases where load estimates have been loosely put together using gross assumptions, I am concerned that the actual unknown parameter loading situation is being grossly misrepresented. It is very important that the CALFED Water Quality documents recognize those instances where water quality data are available and appropriate to use for developing load estimates, and differentiate them from those instances where sufficient data are not available and additional monitoring and assessment studies are warranted. We recommend that CALFED focus on utilizing available water quality data for parameters of concern and the best professional judgment of CALFED staff to make decisions regarding the relative importance of pollutant sources and the potential effectiveness of CALFED water quality actions. The need for monitoring data to adequately assess loads and evaluate actions needs to be clearly stated.

I understand that you have attempted to acquire and use the best data available to estimate loads from each of the major sources of contaminants in the watersheds; however, I remain very

concerned with the use of few sources of data (and in some cases a few data points) and the application of gross assumptions to estimate parameter loads. I am most familiar with the CUWA report that you cite throughout your report section but I have also read many of the other references. These documents contain extensive discussions on the limitations on the data that are not included in the details on your loading estimates in Appendix C.

The load estimate for each parameter should include a text discussion that is presented along with the table (i.e. not in an appendix). This section should contain a discussion of each of the parameters, the sources, the loading calculations, the opinion of CALFED staff on the adequacy of the data used to estimate loads, and the opinion of CALFED staff on additional data needed to adequately characterize the loads. This would provide the reader with information about relevant importance of sources of water quality parameters that the reader cannot currently get from the tables alone. The "Limitations" section is a good start but does not provide the amount of detail needed to evaluate the loading estimates for each parameter.

The key for the loading tables should include the following additional note, "Further monitoring and assessment required to estimate loadings." In my opinion, "further literature review" is not going to be sufficient to estimate loadings in all the cases indicated.

Page 3-40 - The listing of sources of water quality parameters of concern in the Delta and its tributaries should also include timber harvesting, road construction, dairies and confined animal facilities, and boat discharges. The "agricultural tail water or return flows" source should also include TOC. Pathogens and gasoline by-products (MTBE) should be listed for boat discharges.

Table 3.6 - Bromide Loadings - Seawater is the major source of bromide to the Delta but the loading of bromide from seawater is not calculated. I believe Marvin Jung with the MWQI Program has developed a mass loading analysis that includes bromide in seawater. I suggest that you call him. In any event, the discussion about bromide needs to state that seawater is the major source and the watersheds are minor sources of bromide. There are no actions CALFED can take in the watersheds to reduce bromide concentrations in Delta drinking water supplies.

Table 3.7 - Cadmium Loading and other metals tables - I could not figure out how you arrived at the Sacramento Valley numbers presented in the tables, based on the explanation presented in the appendix. I suggest you add further explanation on this so that readers will be able to understand the difference between the numbers presented in the explanatory text and the numbers presented in the tables.

Table 3.9 - Mercury Loading - There is a statement in the appendix that "Most urban runoff data for mercury are below detection levels and urban runoff is not generally considered to be a significant source of mercury." I think this is an example of my general concern about the loading analysis presented in this report. There have been very few studies conducted in which the mercury detection limit was sufficiently low to detect the extremely low levels of mercury that are needed to assess impacts on humans and aquatic life. The Sacramento mercury study is one

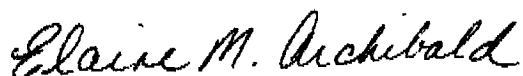
of the few studies that used the ultra low detection limits. It is inappropriate to state that urban runoff is not a significant source unless you have data on urban runoff in which the low level detection limits were used. A more appropriate statement is that it is not known if urban runoff is a significant source of mercury and studies need to be conducted to assess it.

Table 3-12 - Total Dissolved Solids Loading - This table needs to include an estimate of the TDS load from seawater, Delta agricultural drainage, and M&I discharges. Data on seawater and Delta agricultural drainage are available from the MWQI Program. The Sacramento Regional Wastewater Treatment Plant and other dischargers monitor their discharges for TDS. The recent draft EIR on the expansion of the Sacramento Regional Plant contains information on their discharge concentrations.

Table 3-13 - Total Organic Carbon Loading - This table does not include an estimate of the load of organic carbon from Delta agricultural drainage. Since this is the most significant source of organic carbon in export water supplies, it is essential that it be included in the report. In general, organic carbon increases from about 2 mg/L in the Sacramento River at Greene's Landing to about 4 mg/L at the Banks Pumping Plant. About half of that increase has been attributed to Delta agricultural drainage by MWQI Program studies. I suggest you contact Marvin Jung to obtain the data and references. Based on current data, actions taken in the Sacramento and San Joaquin watersheds to reduce organic carbon will not produce the same results as controlling organic carbon in the Delta. In addition, the basin emission load from the San Joaquin Basin presented in this table is double what it should be based on the CUWA report data.

As you requested, I conducted a quick review of this section in the few hours that were available today. I understand you are working under a very tight deadline and needed my comments today. It was somewhat difficult to review this section without seeing the other sections and understanding how the loadings estimates are used to evaluate the CALFED actions. I look forward to a more thorough review of the water quality section of the programmatic EIR/EIS.

Sincerely,



Elaine M. Archibald

cc:

Peter Mangarella, Woodward-Clyde Consultants
Judy Heath, CALFED